

RESEARCHING INNOVATION IN LOW-INCOME COUNTRIES: THE STATE OF THE ART

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Abstract

From Afghanistan to Zimbabwe, roughly 800 million people among the world's poorest live in low-income countries (LICs). There is consensus that, in a global economy, an improvement of their condition will depend increasingly on innovation and on the power of science and technology to address constraints on both livelihoods and productive activity.

Yet somewhat paradoxically, the literature on innovation in development generates the least insights about those countries whose people need them most. In fact, we know a lot more about middle-income economies such as Brazil, China, India, or Mexico. There are many reasons for this. A cursory assessment of the subject bias in journals such as *Research Policy*, *Industry and Innovation*, *Corporate and Industrial Change*, *Technovation*, and *R&D Management* reveals a high-technology bent which is obviously not appropriate for low-income countries, where most economic activities are resource-based or rooted in relatively simple manufacturing. The innovation system approach in particular has little tradition in analyzing learning and upgrading in so-called low-tech activities, let alone in those that are not being pursued by proper "firms" but by communities, for example in the area of traditional medicine. Another reason is that the researcher base in these countries is much smaller than in many middle-income countries that attract a lot of attention, such as the BRICS countries (Brazil, Russia, India, China and South Africa). Since most research has a home bias, this means that we know a lot more about each of BRICs countries than about the entire African continent or about South Asia.

Successful innovation requires a system of networks and linkages which develop over time. The understanding of such a system and its evolution provides governments with a framework within which innovation policies can be formulated and implemented. Given that innovation is a complex phenomenon resulting from a co-evolution of technologies, industrial structures and supporting institutions, it is important that it is contextually analysed. In the absence of such understanding there is danger that policy borrowing will substitute for policy learning, resulting in the adoption of partly inappropriate policies. It is not possible to simply transfer findings from middle- to low-income countries. The context in LICs in terms of human capital, firm capabilities, governance, and so on is

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indeed very different. Hence, lack of innovation literature in LICs is problematic as it undermines efforts by policy makers to come up with policies that are context specific; an important issue which is explicitly recognised in innovation systems literature.

This paper therefore presents an overview of innovation literature concerned with LICs, as published in academic journals from January 1997 to the present. Our search was limited to ISI articles that included material on “innovation/development & low-income countries”; “innovation/development & developing countries”; “individual country name combined with innovation or development” in the title, abstract or keywords. The inclusion of the broader term “development” instead of “innovation” was motivated by the fact that many contributions to the field are external to traditional economics or innovation systems literature, and use different terminology, even though their subject matter is innovation.

The search on ISI resulted in the following hits for these categories:

- innovation & low-income countries 33,
- innovation & developing countries 459,
- innovation & least developing countries 17 and;
- individual country name combined with innovation 347

Additionally, searches combining country groups/ individual country name with development had a total of 22239 hits. Only those articles with relevancy to innovation and low-income countries will be reviewed – so far, by just going through the abstracts of some of these articles, indications are that only a small proportion of them will be relevant. We constructed a database that categorises each article according to its research question; theoretical framework; methodology; unit of analysis; data; results/findings; sectors and geographical coverage. This database will be searchable to identify key theoretical, methodological and empirical trends.

Although, at this point we are still in the process of sorting this literature in terms of relevance, a cursory review of the relevant articles not only confirms a serious gap in innovation literature in LICs but also highlights the limited coverage of issues, with a preponderance of agriculture and health sectors. Also quite noticeable for its absence in the literature is insight into the evolutionary process of innovation systems in LICs. More important, our preliminary findings highlight that the absence of rigorous studies on innovation in LICs has undermined incorporation of LICs peculiarities in innovation policies. In particular, poverty reduction and inequality issues which characterise these countries are conspicuous for their absence in recent innovation literature.

The paper aims at summarising and synthesizing the scope of existing research and in the process, highlight gaps in the literature to identify a future research agenda.